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# Implementation of Mobile Phone Information Search Engine and Services

Brijesh Dubey<sup>1</sup>, Sushil Ku.Kashyap<sup>2</sup>, Dr.Vishnu Kumar Mishra<sup>3</sup>

<sup>1</sup>Dr. C.V.RAMAN UNIVERSITY, BILASPUR, INDIA,  
MPHIL SCHOLAR

<sup>2</sup>Dr. C.V.RAMAN UNIVERSITY, BILASPUR, INDIA,  
PHD SCHOLAR

ASSOCIATE PROFESSOR  
DEPTT.OF ENGINEERING (CSE)

<sup>3</sup>RSR RUNGTA COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI (C.G)

*Abstract- Mobile Phone search engine is based on mobile phone crawlers. Mobile phone crawler is a substitutive approach for Web crawling. Which crawl the data and also acts as a server by which client can easily get live image also, and it is suitable for the user. There is not any type of handy machine which acts as a server. Mobile phone as a server works and crawl the data. In present available Mobile phone platforms is Android, Motion research, Apple iPhone OS and Symbian. Android mobile phones are the second huge OS threw 2014. Linux s/w used in android which work on admittance the essential regulations requested by the user. this research work is fulfilled which is cost and time. I developed a mobile phone search engine server. It crawl the data and also send live image to the sender. Here Mobile phone is acts as a server. In the chapter is 6 showing the code in chapter 5 along with the block diagrams of each module. The system made in this research requires only android mobile phone and wi-fi network connection.*

*Mobile phone crawler pass through a filter and filter pages which not changed from the time when last crawling happened. Mobile phone crawler presents most effective and talented searching, that type of crawler based on android java environment. By using that type of mobile crawler procedure, it has less important searches compare to other search engines. By this crawler system presentation improved, reason behind of this is those pages which are not customized and not repossess, along with this near photocopy recognition feature adds more privilege to reduce unwanted downloads. Page updating activity will presumed by crawler revisit frequency.*

**Keywords-** phone crawler, automatically arranged, Web crawling, search engine, Data libraries

## I. INTRODUCTION

Mobile phone search engine is a new concept of meta search engine. In this search engine firstly make indices of all documents which available in mobiles SD cards. That way by mobile phone using indices provide controlling search facilities. By using mobile phone crawler approach it pass through a filter

of unchanged links from remote server without downloading the links and only download modified pages. Crawlers used mobile agent for building web indices that way crawler proposed crawling approach. This approach called Mobile phone crawler [1]. Locally all data be located in the indices, by using data crawler it transported to the site of the source and filter out unwanted data locally and search the related query given by

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user. mobile phone crawler transfer the data in each mobile phone and after that it collecting pages on particular phone. Mobile phone crawler firstly finishes collection of data in one mobile phone after that it move on next Mobile phone [2]. That way, crawler is crawling there database. There is a Crawler manager in mobile phone crawler. Mobile phone crawler is managed by Crawler manager and also crawler manager is supervised location of each mobile phone crawler. Using this procedure Crawler manager is supplies list of target Mobile Phones to each crawler. Mobile phone crawler presents most effective and talented searching, that type of crawler based on android java environment [3].

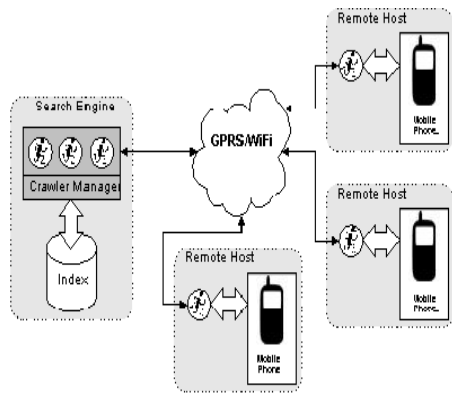


FIGURE 1: AN OVERVIEW OF MOBILE PHONE CRAWLING.

## II. PROBLEM IDENTIFICATION

the problem is network size. Network size is very wide that's way whenever a user search the page related with work then user found many pages by using search engine. Search engines maintain indices for searching documents throu downloading pages constantly [4]. This process of crawling by web called web crawling technique. That mobile phone acts as a server in crawling technique. For searching the information so fast we should use mobile phone crawler that way it reduce the traffic and also reduce the load on remote side appreciably [5]. Java aglets can be help accomplishment of Mobile phone system.

## III. LITERATURE SURVEY

In that searching area there are so many searches has been done. In 1994 First architecture was World Wide Web Worm. For the Web it was the first investigate machines. Between 1994 and 1997 first experimental were happened. These investigate machine pursued by big profitable machines like WebCrawler, HotBot, Altavista, Infoseek, Excite and Lycos. For architectural aspects in the market there are two papers published. These are related to WebCrawler and Lycos. However, in that time there is not more information available related to search technologies. The Google research is done at Stanford University [4,6]. The Google research is one of the search engines which recently transported large scale search engine. Present time Google has more popularity in the market.



Figure 2: Process diagram for Search engine

a one more development which considers Web searching and using broader context in Web indices. Topic-specific searched out resources which rope by Harvest. A well-organized distributed information gathering architecture made by content indexing. Different type of resource detection tools like search engines can be constructed by Harvest which is a base architecture of search engine. Harvest have fulfill goal with the formation of Web indices, which diminution of network and server load connection [7].After some time that issues associated with Harvest and for fulfill that requirements Harvest

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brings into play distributed crawlers, after using that it called by gatherers. Gatherer is an index based search engine which can be established at the site of the information supplier, and supply information to the index. External resource discovery systems give different types of information to the indices, this process done by brokers [8]. If indices want more information then multiple gatherers or brokers can work for information gathering.

Social aspect also comes under Web crawling. By accessing documents network that resources consumes data using Web crawler. Most important feature of web crawling is that whenever web crawler downloaded full substance of a server considerably harms the performance of the server [9]. This is the disadvantage of web crawling technology and it earned bad status and about this argue by Koster. After this problem a lay down of strategy has been available in the market. In this policy a explicit Web crawling procedure comes that was Robot Exclusion Protocol [10]. This technologies searched by Koster. In this crawling technique a new property came, here webmasters identify before search the page that which pages not to crawl. However, Web crawlers server put into practice it on an unpaid foundation [11].

### ADVANTAGES OF CRAWLER BASED SEARCH ENGINES

- Web sites have larger searchable databases
- Frequently search the full text of individual web pages.
- Unintelligible terms or phrases are good for searching.

### DISADVANTAGE OF CRAWLER BASED SEARCH ENGINES

- Duplicates and junk not controlled by human.
- Size of database can create mischievously high number of search result.
- For searching commands languages can be obscuring and confusing.
- Alta Vista, Excite, HotBot, and Magellan is the different examples of crawler based search engine.

### IV. METHODOLOGY

In this crawling technique Mobile act as a server. In that mobile crawling technique by browser it crawl the data which store in the mobile SD card

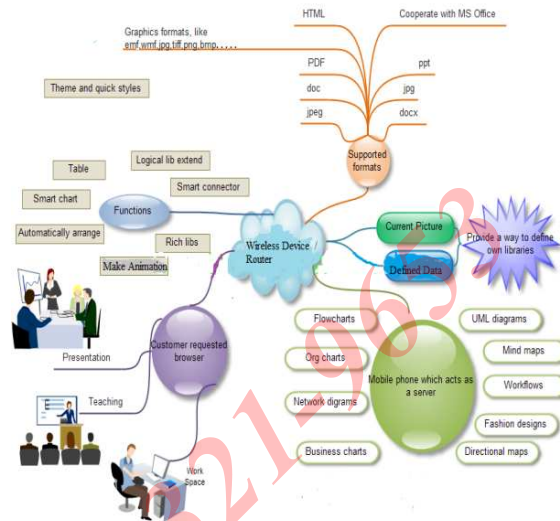


Figure 3: Proposed method for Mobile Crawling In application of mobile crawling approach there should be so many functions available [12]. Those are as follows:

- Automatically arranged the data.
- Data libraries are rich in nature.
- Smart connection is available.
- This mobile crawling approach is support such formats. That formats are:

- .doc
- .docx
- .jpg
- .jpeg
- .pdf
- .ppt

Here mobile phone act as a server and also connected with requested browser threw IP addresses. By this it should crawl and download the data as per user requirements [13]. This application is provide data which store in database and also provide that data which currently clicked by client side as per requirement. Client also can get live image by sending request to client. By using this client can see live capture of any object.

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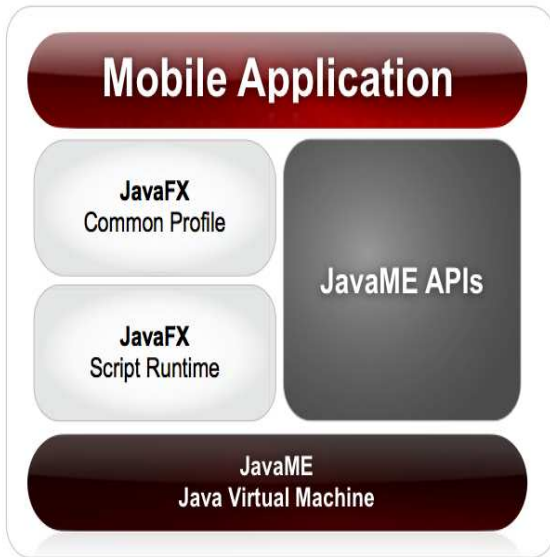


Figure 4: Architecture for Android

```
public class TakePictureThread implements Runnable {
    Context mycontext;
    ServerThread serverThread;

    TakePictureThread(Context mycontext, ServerThread serverThread) {
        this.mycontext=mycontext;
        this.serverThread=serverThread;
    }
}
```

Figure 5: Code sample for describing data location ANDROID.HARDWARE.CAMERA.PICTURECALLBACK

This method used Callback interface. By using this interface it supply image data from a photo capture using mobile phone server.

```
VOID
AMITY.SEARCH.TESTSOCKET.TAKEPICTURETHRE
AD.RUN().NEW PICTURECALLBACK()
{...}.ONPICTURETAKEN(BYTE[] DATA, CAMERA C)
```

Specified by: onPictureTaken (...) in PictureCallback  
 PUBLIC ABSTRACT VOID ONPICTURETAKEN (BYTE[] DATA, CAMERA CAMERA)

Since: API Level 1

It should call whenever image data is obtainable after a picture is clicked by mobile phone server. The format of the data depends on the context of the callback and Camera.

Parameters

data: a byte array of the picture data

camera: the Camera service object

Under the Apache License Google releases the code for Android (open source). It is allowed open source code and permissive licensing. Android Device is generously customized and dispersed by producer. Android devices have wireless transporter and aficionado developer's software [14]. Android have smart phone platform, go beyond Symbian in the 2011. Android needs a low-cost, customizable, lightweight operating system. That way it is developing one from scratch for high tech devices. Android has so many applications on digital cameras, games consoles, televisions, and other electronics. In 2013, worldwide smart phone had 83% share in market. Approx, 1000 million devices activated in total and 3.5 million activations per day. That hardware processor made successfully so it create smart phone wars in between technology Company. Android had 1000 million Android devices which activated till 2014, and 58 billion apps also downloaded from the Google Play store [15].

It is a simple structure describing a Data position.

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```

public void run() {
    Camera.PictureCallback mPictureCallback = new
    Camera.PictureCallback() {
        public void onPictureTaken(byte[] data,
    Camera c) {
            if (data != null) {
                CameraHelper.camera.startPreview();

                Bitmap bmp =
                BitmapFactory.decodeByteArray(data, 0, data.length );
    }
}
    }
}
    
```

Figure 6: Code sample for supplying data to user JAVA.IO.INPUTSTREAM

This is the base class for all input streams. Reading data from a source and convert it in a byte-wise manner is the input stream.

```

InputStream content=Utils.openFileFromSD("Radha Krishna.jpg",
mycontext);
//InputStream content=Utils.openFileFromSD("and.pdf",
mycontext);
if (content!=null) {
//serverThread.send(content, "application/pdf");

serverThread.send(content,"image/jpg");
//serverThread.send(content,"application/pdf");
}
    
```

Fig 7: Code sample for reading data from mobile server

```

//send html
serverThread.send("<head>" +
    "<link rel='stylesheet' type='text/css' "+
    "href='"+serverThread.getHost()+"/css.css' />" +
    "<meta http-equiv='Content-type' value='application/jpg;
charset=ISO-8859-2'>OK "+
    "<img src='"+serverThread.getHost()+"/Radha
Krishna.jpg'><div id='asd' style='clear:left'>0</div> "+
    ""+"</head>");
serverThread.closeInputOutput();
}
}
    
```

Figure 8: Code sample for downloading data from mobile server

V. EXPERIMENTS AND RESULTS

In the Implementation part here define the mobile crawler which continuously crawls a mobile network for user interactions and stores them in a cache. These interactions are in the form of < name; type; text > tuples. Here data make her indexes. Whenever a data enter in the cache it also updates the indexes. These indexes are maintained by R-tree. Mobile Phone crawlers make indexer for all different extensions. By making indexer search engine easier find the requested result. The algorithm returns the image showing the desired indexes only that are placed at the cache of phone crawler. For this purpose here use a sample image. Analyzing the results from the implemented system and the earlier results mentioned in different research papers that are being used for literature survey, it was found that number of probes used were less as compared to the existing scenario which uses the back to back probing mechanisms

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Figure 9: Final crawling result  
At the end by downloading data shows in browser by using Mobile Phone Crawler as a server.

### VI. CONCLUSION AND DISCUSSION

The main objective behind this research work is fulfilled which is cost and time. I developed a mobile phone search engine server. It crawl the data and also send live image to the sender. Here Mobile phone is acts as a server The system made in this research requires only android mobile phone and wi-fi network connection. Mobile phone crawler presents most effective and talented searching, that type of crawler based on android java environment. By using that type of mobile crawler procedure, it has less important searches compare to other search engines. By this crawler system presentation improved, reason behind of this is those pages which are not customized and not repossess, along with this near photocopy recognition feature adds more privilege to reduce unwanted downloads

### VII. FUTURE WORK

In Future such implementation can be done so that we can use these following ways of mobile phone crawler's server implementation:

Conduct experiment with crawling approach that way efficiency of our mobile crawlers are improved. By using digital signature, it can introduce a recognition mechanism. That's way we implement security oriented design of the mobile phone crawler.

In future we are reporting analysis part of two-phased crawling which currently implemented. Mobile phone as a server work and crawl the data and give it to client, it should also click live image and can see the data.

### APPLICATIONS OF ANDROID TECHNOLOGY

Google Play or the Amazon Appstore are app stores through which user downloads images, this process done by third party applications or user could also downloading the application's APK. Applications filtered by user's device and developers restrict their application countries for business reasons. In September 2012 there are 837,000 apps available in Android Phones.

#### Development of Android Application

Google developed privately and released updates and also it point out source code is made available publicly. Nexus series of devices are mostly run source code which was not modified. Other proprietary binaries are making available by the developer in categorize for Android.

#### Linux

Linux kernel version 2.6 is used in Android. Google outside Linux kernel development cycle changed the Linux kernel architecture for Android's. Linux support set of standard GNU libraries. These libraries are by using this makes it difficult libraries to Android. It uses the JNI. Jagged Alliance 2 port for Android is the best example of Linux in java shim.

### MEMORY MANAGEMENT

Ram is managed by Android it also usually battery-powered devices. It connected to unlimited mains electricity. When Android application is not in use it robotically suspends its memory. Suspended apps do not consume any resources, battery power or processing power. When in mobile memory space is low it automatically manages the applications and start killing app which inactive for a while.

#### Security and privacy

Using sandbox Android applications is run. The play store is displays all required permissions before installing an application. In androids mobile it needs SD cards space for installing a game. After that Android provide facility for user to accept or refuse them. It is installing application when user says yes for installing.

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### REFERENCES

- [1] Anbukodi.S, Muthu Manickam.K., "Reducing Web Crawler Overhead using Mobile Crawler", PROCEEDINGS OF ICETECT 2011 978-1-4244-7926-9/11/\$26.00 ©2011 IEEE.
- [2] Pavalam S. M., S. V. Kasmir Raja, Jawahar M., and Felix K. Akorli, "Web Crawler in Mobile Systems", International Journal of Machine Learning and Computing, Vol. 2, No. 4, August 2012.
- [3] Android Developers. The Developer's Guide. Available at: <http://developer.android.com/>. Last accessed Jan. 08, 2013
- [4] Joachim Hammer, Jan Fiedler, "Using Mobile Crawlers to Search the Web Efficiently", in International Journal of Computer and Information Science, 1:1, pages 36-58, 2000.
- [5] Android Emulator, available at: [http://en.wikipedia.org/wiki/Android\\_\(operating\\_system\)](http://en.wikipedia.org/wiki/Android_(operating_system)) Last accessed march 25, 2013
- [6] Jan Fiedler and Joachim Hammer, "USING THE WEB EFFICIENTLY: MOBILE CRAWLERS", In Seventeenth Annual International Conference of the Association of Management (AoM/IAoM) on Computer Science, Maximilian Press Publishers, San Diego, CA, pages 324-329, August 1999.
- [7] Jianxia chan, Wei wu, Chunzhi Wang, "A Mobile Phone Information Search Engine Based on Heritrix and lucene", The 7th International Conference on Computer Science & Education (ICCSE 2012) July 14-17, 2012. Melbourne, Australia.
- [8] Domenico Amalfitano, Anna Rita Fasolino, Porfirio Tramontana, "A GUI Crawling-based technique for Android Mobile Application Testing", 2011 Fourth International Conference on Software Testing, Verification and Validation Workshops.
- [9] Hiroshi Takeno, Makoto Muto, Noriyuki Fujimoto, "Developing a Web Crawler for Massive Mobile Search Services", Proceedings of the 7th International Conference on Mobile Data Management (MDM'06) 0-7695-2526-1/06 \$20.00 © 2006 IEEE .
- [10] Android Developers. The Developer's Guide. Available at: <http://www.vogella.com/>. Last accessed apr. 08, 2013
- [11] Md. Faizan Farooqui, Dr. Md. Rizwan Beg and Dr. Md. Qasim Rafiq, "AN EXTENDED MODEL FOR EFFECTIVE MIGRATING PARALLEL WEB CRAWLING WITH DOMAIN SPECIFIC AND INCREMENTAL CRAWLING", International Journal on Web Service Computing (IJWSC), Vol.3, No.3, September 2012.
- [12] Ismet Aktas, Florian Schmidt, Muhammad Hamad Alizai, Tobias Drüner, Klaus Wehrle, "CRAWLER: An Experimentation Platform for System Monitoring and Cross-Layer-Coordination", 978-1-4673-1239-4/12/\$31.00 c 2012 IEEE.
- [13] Pavalam S. M., S. V. Kasmir Raja, Jawahar M., and Felix K. Akorli, "Web Crawler in Mobile Systems", International Journal of Machine Learning and Computing, Vol. 2, No. 4, August 2012.
- [14] Srashti Gupta, Kunal Gupta "IMPLEMENTATION OF ANDROID BASED MOBILE PHONE CRAWLERS" published in International Journal of Mathematics and Computer Applications Rechrs (IJMCA), ISSN (Print):2449-6955; ISSN(Online): 2249-8060; Vol. 3, Issue 2, Jun 2013, 175-182 © TJPRC Pvt. Ltd.
- [15] Srashti Gupta, Kunal Gupta "REVIEW ON IMPLEMENTATION OF MOBILE PHONE CRAWLERS" published in International Journal of Computer Networking, Wireless and Mobile Communications (IJCNWMC), ISSN (Print):2250-1568; ISSN(Online): 2278-9448; Vol. 3, Issue 2, Jun 2013, 7-10 © TJPRC Pvt. Ltd.





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